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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/568,442

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Henri Perez

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MCKENNA LONG & ALDRIDGE LLP
1900 K STREET, NW
WASHINGTON, DC 20006

EXAMINER

LE, HOA T

ART UNIT

PAPER NUMBER

1794

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/568,442	PEREZ ET AL.	
	Examiner	Art Unit	
	H. T. Le	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☒ Claim(s) 12 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>June 2006</u> . | 6) <input type="checkbox"/> Other: ____. |

Claim Objections

1. Claim 12 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 12 depends on claim 1; however, the scope of claim 12 is broader than that of claim 1. Claim 1 limits the catalyst to "consisting of nanoparticles", while claim 12 describes the catalyst as "comprises the nanoparticles". "Consisting of" is a closed language which limits to the specified ingredients while "comprising" is an open language which includes non-specified ingredients even in large proportion. Therefore, the scope of claim 12 is broader than that of claim 1. Claim 12 fails to further limit the subject matter of claim 1

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 7, 11-17, 21-23 and 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 7, the term "by means of a process" renders the claim vague. How is "by means of a process" different from just "a process"? The phrase "compounds intended to form the molecules" is awkward and confusing. Is it intended to mean a "precursor for the molecules?"

Claim 11 recites the broad range “1.5 to 10 nm in diameter”, and the claim also recites “1.5 to 5 nm in diameter” which is the narrower statement of the range. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by “such as” and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949).

Claim 12 is inconsistent with claim 11 because it broadens the catalyst from “consisting of nanoparticles” to “comprises the nanoparticles” (emphasis added).

In claim 14, the term “thin” in “thin film” is a relative term which renders the claim indefinite. The term “thin” is not defined by the claim. The specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

In claim 16, it is unclear what “pretreatment” denotes. “Pretreatment” appears to be a process limitation that signifies a process step before another process step. However, there have been no other steps being previously recited.

Claim 17 suffers the same deficiency of claim 16. In addition, “consists in” is meaningless in the claim context. It should be just “consists” or “consists of”. Further, “strong” is a relative term which renders the claim indefinite for the same reason set forth in claim 14 above.

Claim 21 suffers the same deficiency of claim 11 because it recites a broad recitation, i.e. “chemical or biological species”, and a narrow recitation, i.e. “in particular a sensor or a multisensor”, within the claim.

Claim 22 recites the wrong subject matter. The subject matter of claim 1 is a catalyst, not “nanoparticles”.

Claim 28 suffers the same deficiency of claim 11.

Other claims are deemed indefinite in view of their dependency upon one of the claims that are rejected above.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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5. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by MURRAY et al (WO 99/61911) .¹

6. Murray describes the use of nanoparticles including a metal core chosen from platinum or palladium, which is a platinoid (see page 6, lines 178-180). A first organic coating consisting of molecules bound to the surface of the metal core, and a second organic coating consisting of molecules that differ from the molecules of the first organic coating, for example: 10H-(phenothiazine-10)propionic acid (Figure 2), and are grafted onto molecules of the first organic coating, as catalysts (see claim 18).

Although it is well established that a prior art document comprising two lists of variables does not constitute a disclosure of a specific combination of said variables, nothing of the like is to be found in D6.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over MURRAY et al (WO 99/61911) in view of Perez et al (FR- 2783051).

Perez describes a composite comprising an organic film on nanoparticles to ensure electrical properties of the composite. Murray describes the catalyst comprising

¹ Cited and provided by Applicant.

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an organic coating by employing nanoparticles of platinum or palladium. Therefore, one of ordinary skill in the art would have found it obvious to employ platinoid as the nanoparticles as taught by Murray in the composite of Perez in order to further provide catalytic capabilities to the electrical properties of the composite of Perez.

Mercapto-aniline as the organic coating is taught by Perez. See Perez claim 18.

9. References are cited as art of interest. The Wakiya patent (US 7,252,883) teaches a coated particle comprising a core of platinum and two organic coatings, but the particle is not of nanoscale and the organic coatings do not contain bifunctional groups. The Hartfield patent (US 7,125,822) teaches a fuel cell catalyst comprising platinum nanoparticles as catalyst on a carbon nanotube support

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to H. T. Le whose telephone number is 571-272-1511. The examiner can normally be reached on 9:30 a.m. to 6:00 p.m., Mondays to Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/H. (Holly) T. Le/
H. (Holly) T. Le
Primary Examiner
Art Unit 1794

September 13, 2008